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The impact of man-made environment on the ecological and biological characteristics of drooping birch

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Abstract

The article analyzes the data on characteristics of phenological phases of development, the content of ascorbic acid and tannins, and peroxidase activity of drooping birch in the environment of the city of Naberezhnye Chelny. The specific reaction of drooping birch on a complex of negative conditions of the built environment was defined. A special feature is the increase in the growing season in species under anthropogenic stress of buffer zones, in-main plantations, as compared to CCA (conditional control area). The content of tannins in the leaves of drooping birch grows in the course of growing season, reaching the highest values in August. The increased anthropogenic impact leads to an increase in the content of ascorbic acid in the leaves of drooping birch in the buffer zone plantations of industrial enterprises and the in-main plantations in the early stages of active vegetation. In technological terms the peroxidase activity in leaves increases over the entire period of active vegetation.

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Keywords

Ascorbic acid, Drooping birch, Peroxidase activity., Phenological observations, Tannins, Urban environment